Area Project

Due Date: Monday, Oct. 22nd, 2012

Geometry

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

Your project is to find out how much it would cost to either carpet or tile one room in your home. The following things must be included in your project.

**Page 1:**

* A **FLOOR PLAN** of the room you intend to work on with the dimensions labeled. The floor plan must be drawn on a piece of graph paper and must be drawn to scale. Include a key showing the scale of whatever unit of measurement you use to centimeters. (\*See conversion chart for reference.)
* An **AREA DRAWING** of the room that breaks down into shapes that are simple enough that you have equations to calculate their area. These area drawing should have **dimensions labeled**, be **drawn to scale**, and be **numbered**. This should also be done on a piece of graph paper.

Ex: Floor Plan Area Drawing

Closet 1 2

3

4 5

**Page 2:**

* An **AREA CALCULATION SHEET** filled out for the room. Make sure to include units and show all work. You may do your area calculations on a separate sheet.
* A **COST CALCULATION** for carpet or tile, depending on the space you are trying to cover. If you choose to carpet your room, you must calculate the price for **both carpet companies**. If you choose to tile your room, you must calculate the price for **both tile companies**. This must be done on a separate sheet.

|  |  |
| --- | --- |
| Fischer’s High Quality Carpets  $6.00 per square foot  High quality | Johnson’s Fine Ceramic Tiling  $5.00 per square foot  High quality |
| Mason’s Affordable Carpeting  $2.75 per square foot  Satisfactory quality | Ziegler’s Vinyl Tiles  $1.50 per square foot  Satisfactory quality |

What does “drawn to scale” mean??

You need to make sure that your figures are **drawn to** **scale**. This means that there is an equal ratio between the units of your actual room and the units on your drawing.

The easiest way to do this is to make a **key** on your floor plan and area drawing that indicates this ratio.

Example: **1 cm = 1 foot**

(It might be a good idea to use centimeters for your figures because the units on graph paper are often centimeters. You will most likely be measuring your room in feet, as it is found on most tape measures.)

Scenario 1: You measured your room in **feet** and you want to scale your figure to **centimeters.**

Solution: Easy!Just draw that exact number of centimeters.

Example: 11 foot wall 🡪 11 centimeters in your figure

Scenario 2: You measured your room in **feet**, but it’s not a whole number and includes **part of a foot** and you want to scale your figure to centimeters.

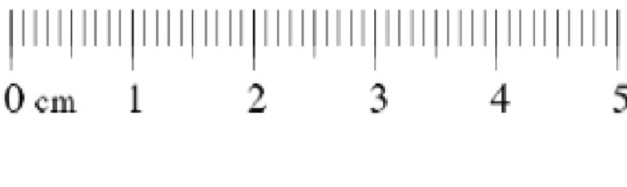
Solution: No problem! Do a conversion. You probably do not have exact whole numbers for the dimensions of your room.

Example: 3 feet, 7 inches 🡪 3 feet (this is because you have 7 inches out of the whole 12 inch foot)

3 feet 🡪 3.83333 feet

Since a centimeter is broken up into 10 smaller units (millimeters), you should find the 3.8 cm mark on your ruler and draw a line till that point.

10 mm = 1 cm



If you decide to use other units of measurement for your room (**meters, yards, etc.**) or other units of measurement for your scaled figure (**inches, millimeters, etc.**), that’s fine. See your teacher for help doing a scaled conversion for each of these!

Checklist before turning in your final project:

\_\_\_\_ Floor plan & area drawing

\_\_\_\_ Dimensions labeled (on floor plan and area drawing)

\_\_\_\_ Accurately drawn to scale

\_\_\_\_ Area calculation

\_\_\_\_ Cost calculation sheet

**Area Project Rubric Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Floor Plan & Area Drawing** | Floor plan neat and missing no components  15 | Floor plan and area drawing unorganized, or missing no more than two of the following:  \_\_dimensions labeled  \_\_drawn to scale  \_\_key included  \_\_units of measurement  10 | Floor plan and area drawing unorganized, and missing 3-4 of the following:  \_\_dimensions labeled  \_\_drawn to scale  \_\_key included  \_\_units of measurement  5 | **\_\_\_ / 15** |
| **Area Calculation** | Area calculation with no errors made  15 | Area calculation with no more than 1-2 errors  10 | No area calculation or more than 2 errors made in calculation  5 | **\_\_\_ / 15** |
| **Cost Calculation** | Cost calculation with no errors made  15 | Both cost calculations made with no more than 1-2 errors  10 | No cost calculation, more than 2 errors made in calculation, or missing one of two company calculation  5 | **\_\_\_ / 15** |
|  | | | | **Total: \_\_\_\_ / 45** |

**Area Project Rubric Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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